ABSTRACT

An apparatus and method for maximizing buffer utilization in an I/O controller using credit management logic contained within the I/O controller. The credit management logic keeps track of the number of memory credits available in the I/O controller and communicates to a chipset connected to the I/O controller the amount of available memory credits. The chipset may then send an amount of data to the I/O controller equivalent to or less than the communicated available amount of memory credits to reduce the occurrence of a "retry" event. The amount of available memory credits is determined by comparing the available memory in each buffer within the I/O controller and designating that the "available" amount of memory for the I/O controller is an amount equivalent to the amount of memory contained in the buffer with the least amount of available memory. This "available" amount of I/O controller memory may then be converted into memory credits and communicated to the chipset.